Title: MAGNETIC SEPARATOR FOR LINEAR DISPERSION AND METHOD FOR PRODUCING THE SAME
Inventors: A.A. Scheidemann
Docket No.: UWOTL122023
U.S. Express Mail No.: EL 974 035 616 US

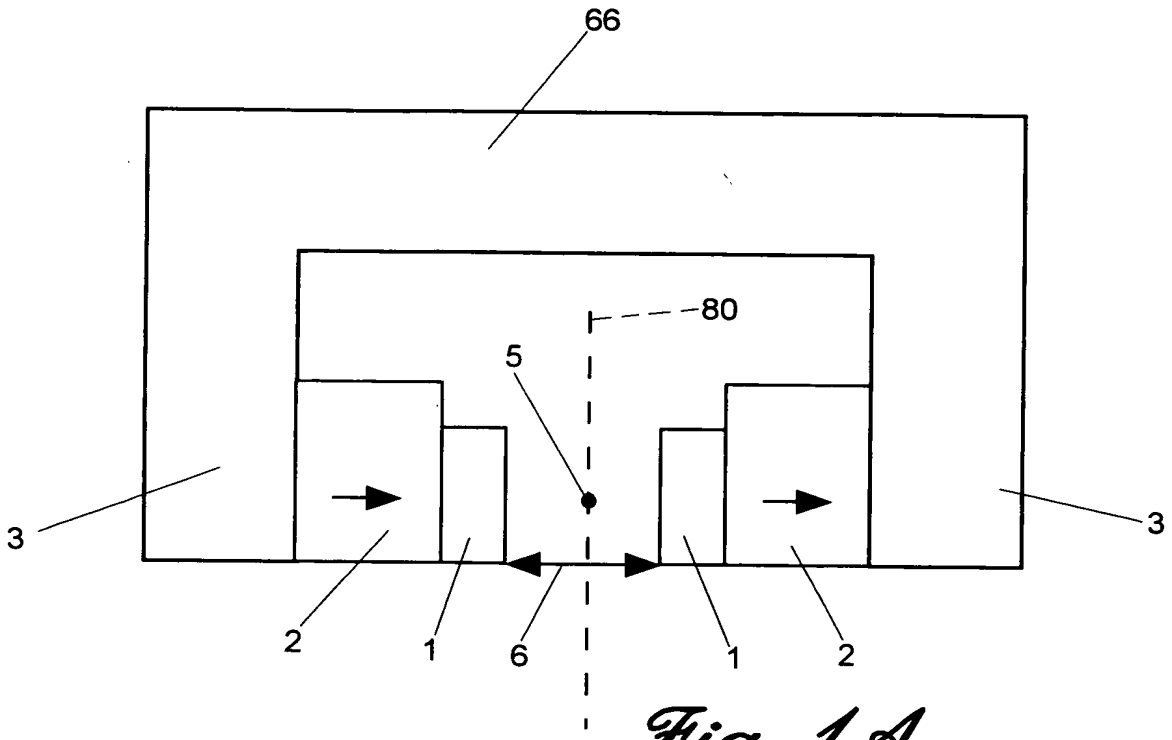


Fig. 1A

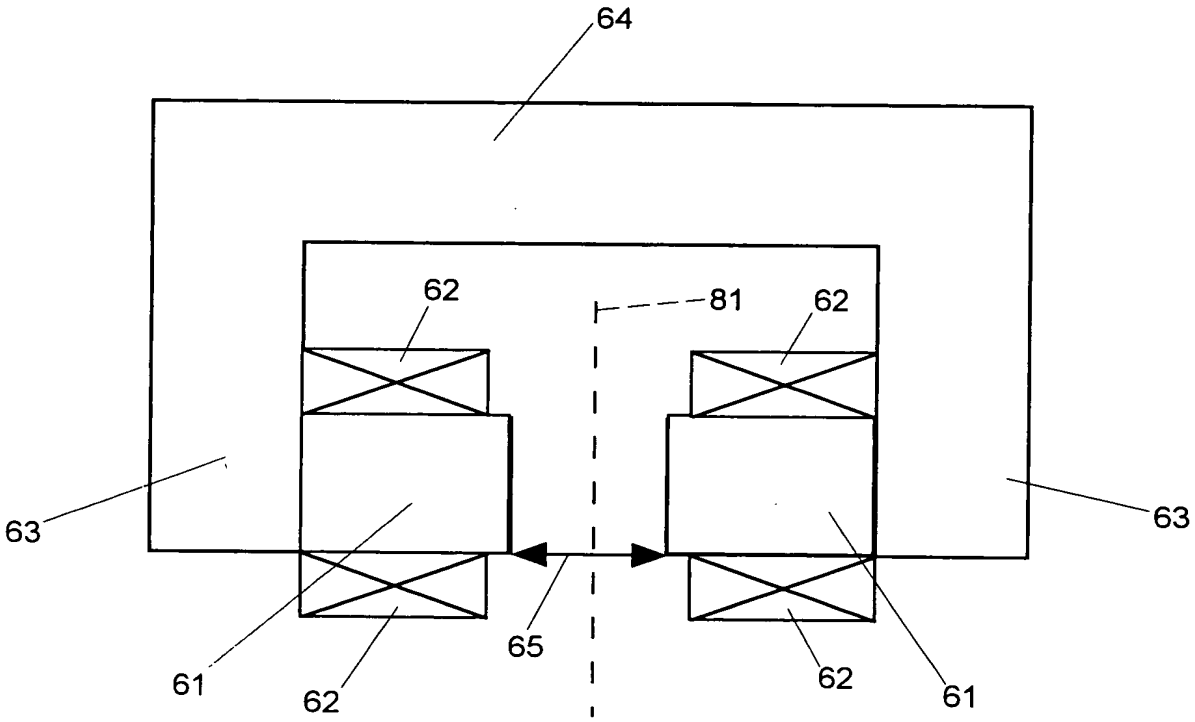


Fig. 1B

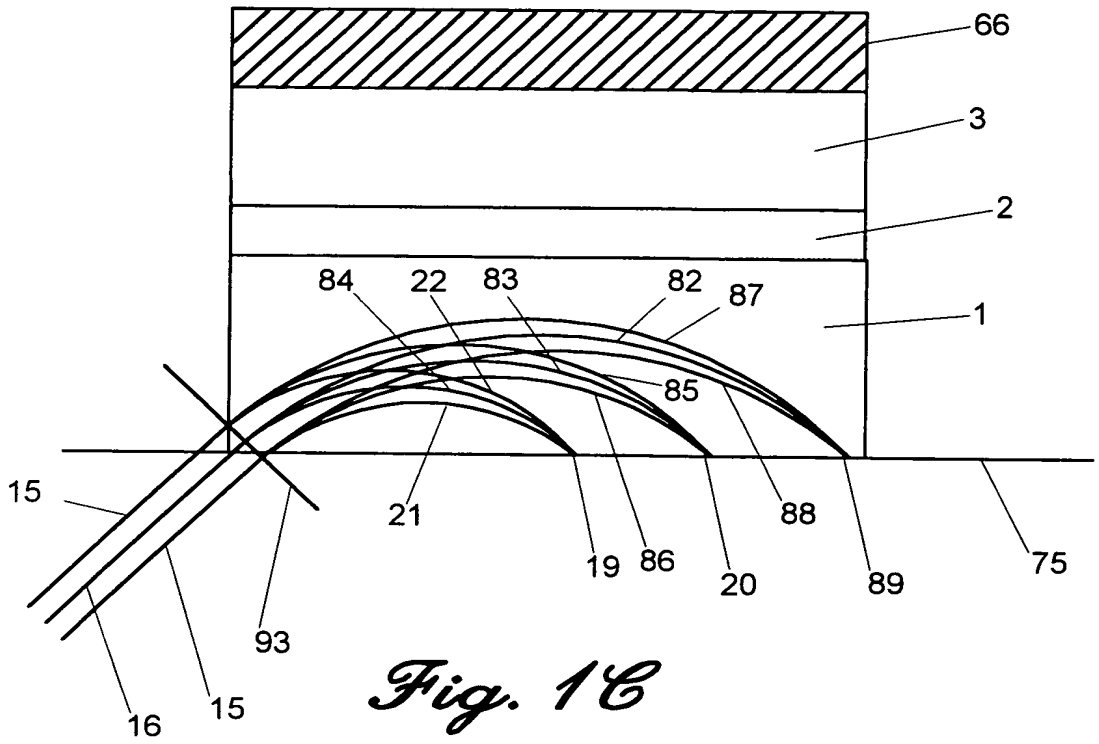


Fig. 1C

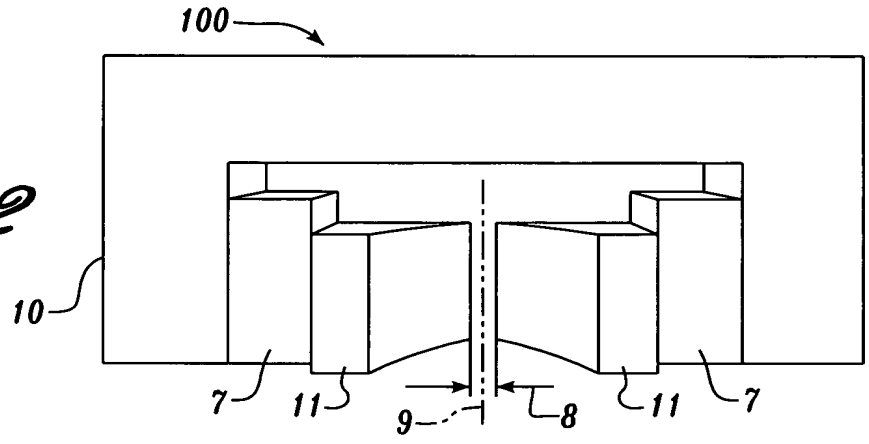


Fig. 2

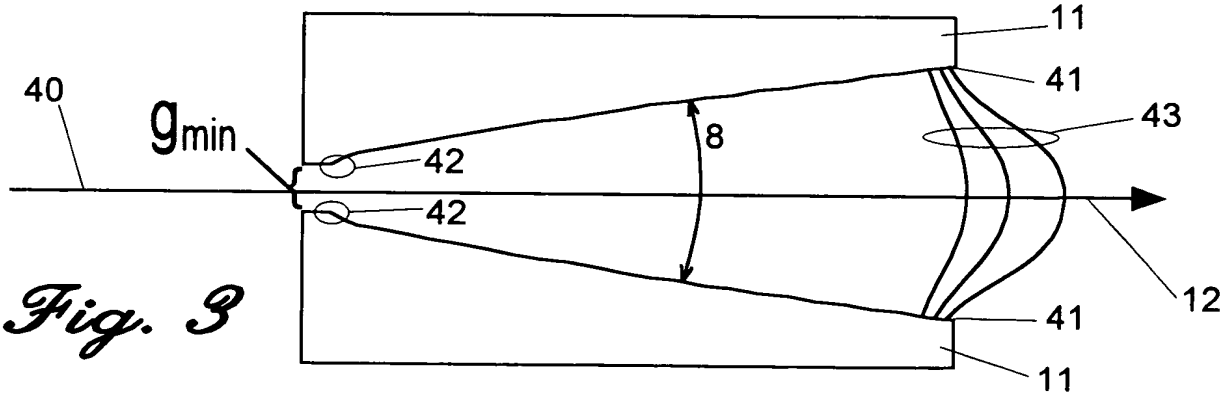


Fig. 3

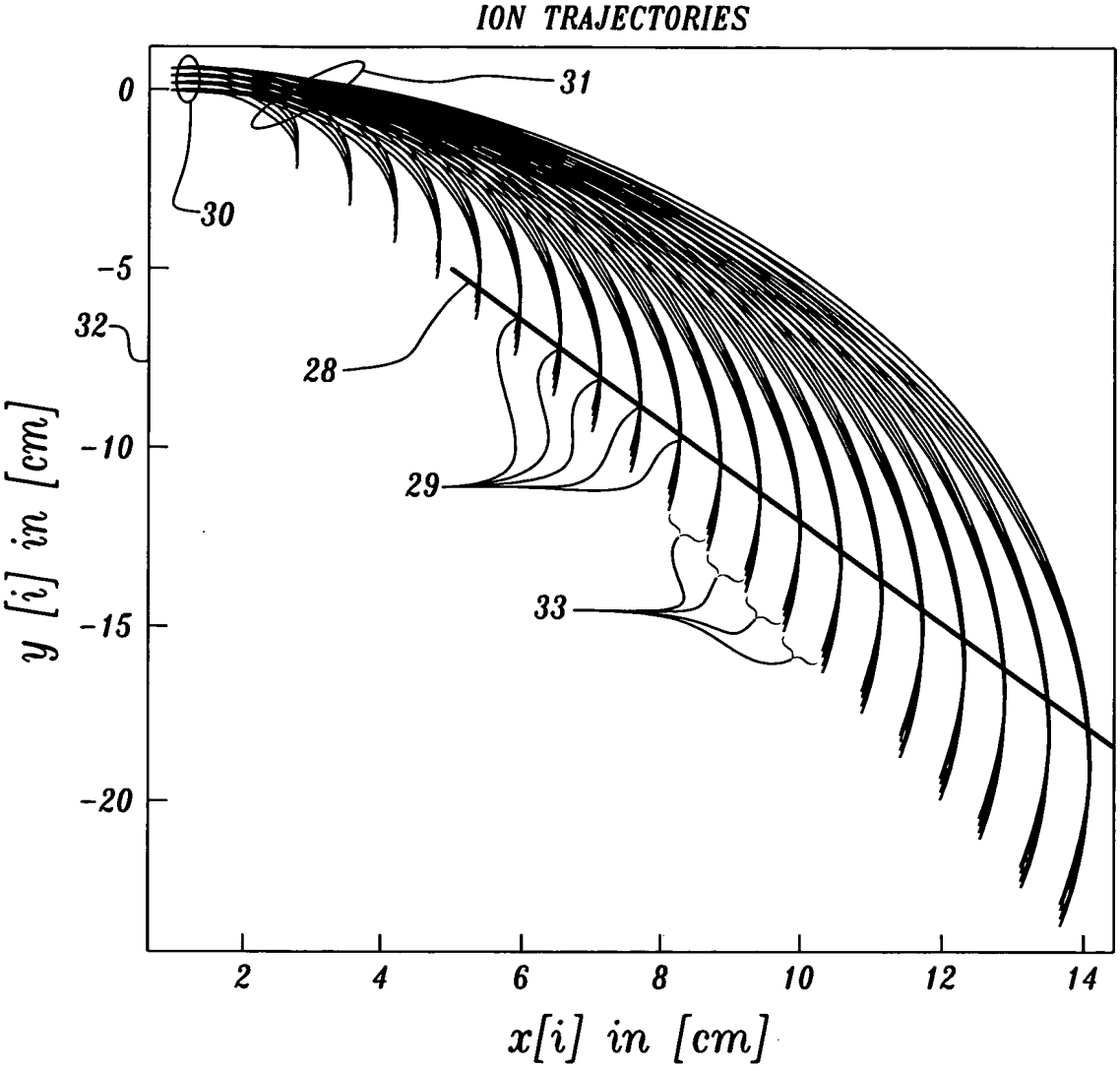

ION TRAJECTORIES
0
-5
-10
-15
-20
y [i] in [cm]
2
4
6
8
10
12
14
x[i] in [cm]
30
31
32
28
29
33

Fig. 4A

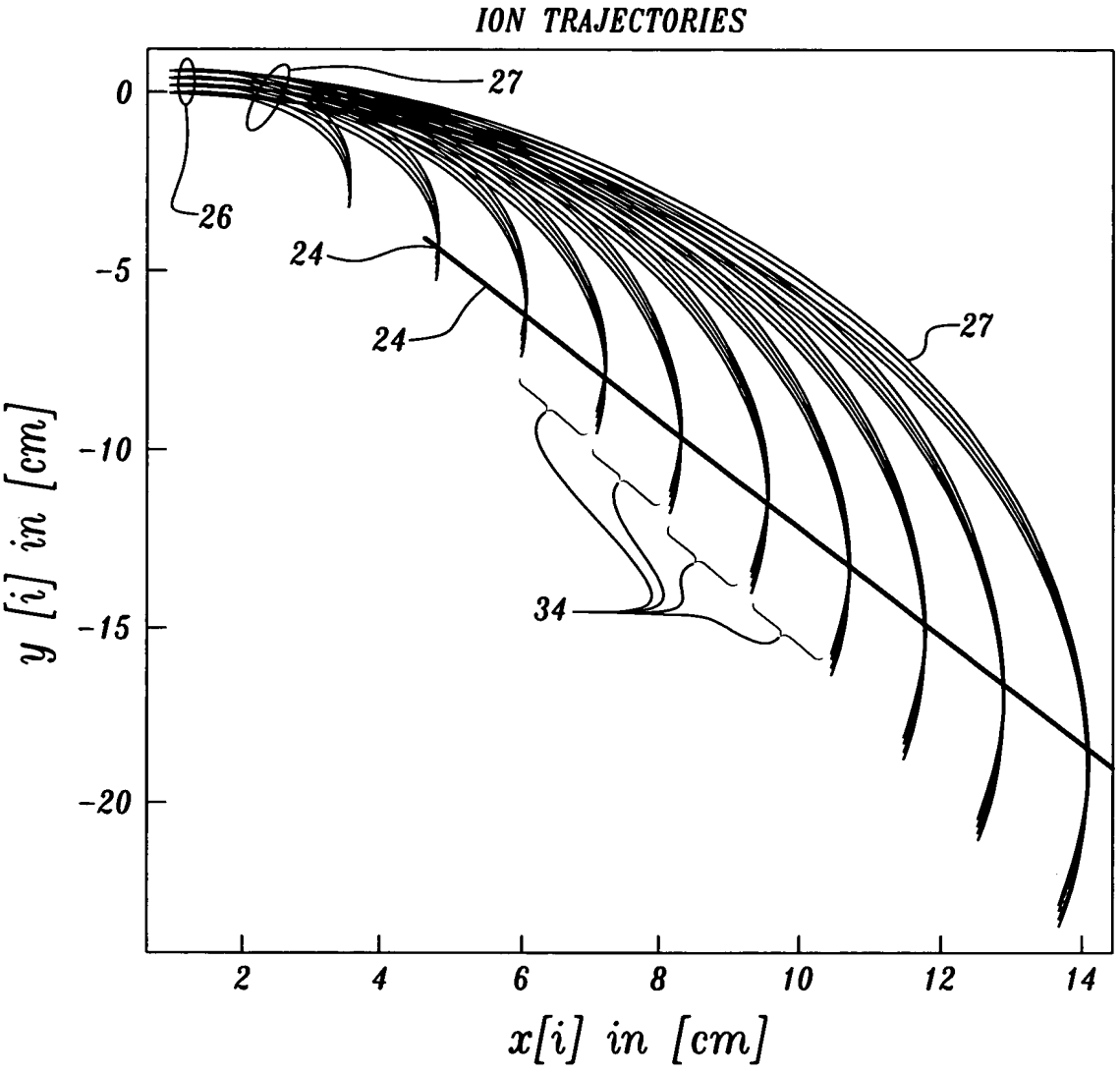

ION TRAJECTORIES
0
-5
-10
-15
-20
y [i] in [cm]
2
4
6
8
10
12
14
x[i] in [cm]
27
26
24
24
27
34

Fig. 4B

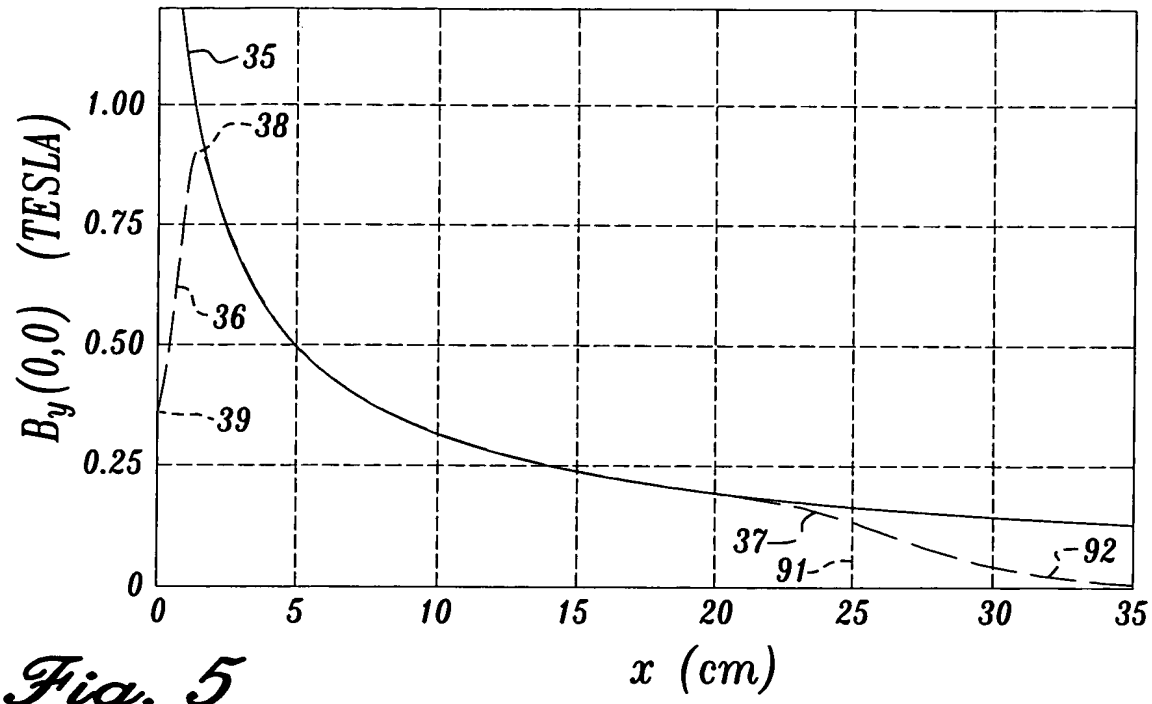

35
38
36
39
37
91
92
1.00
0.75
0.50
0.25
0
0
5
10
15
20
25
30
35
$B_y(0,0)$ (TESLA)
x (cm)

Fig. 5

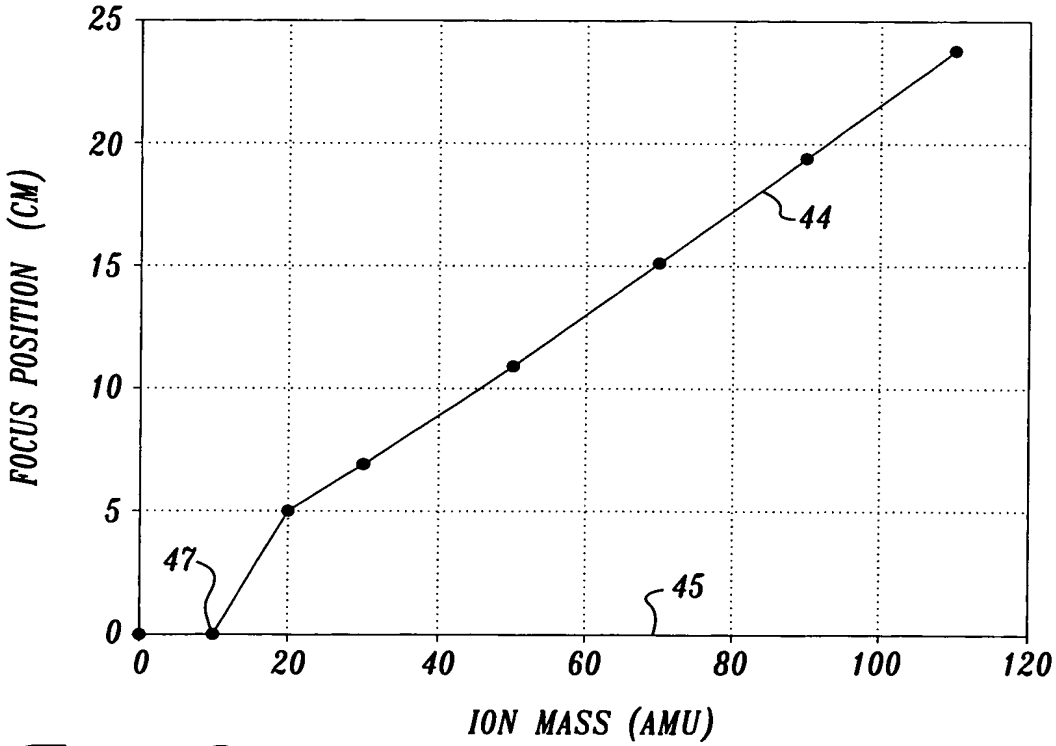

25
20
15
10
5
0
0
20
40
60
80
100
120
44
47
45
FOCUS POSITION (CM)
ION MASS (AMU)

Fig. 6

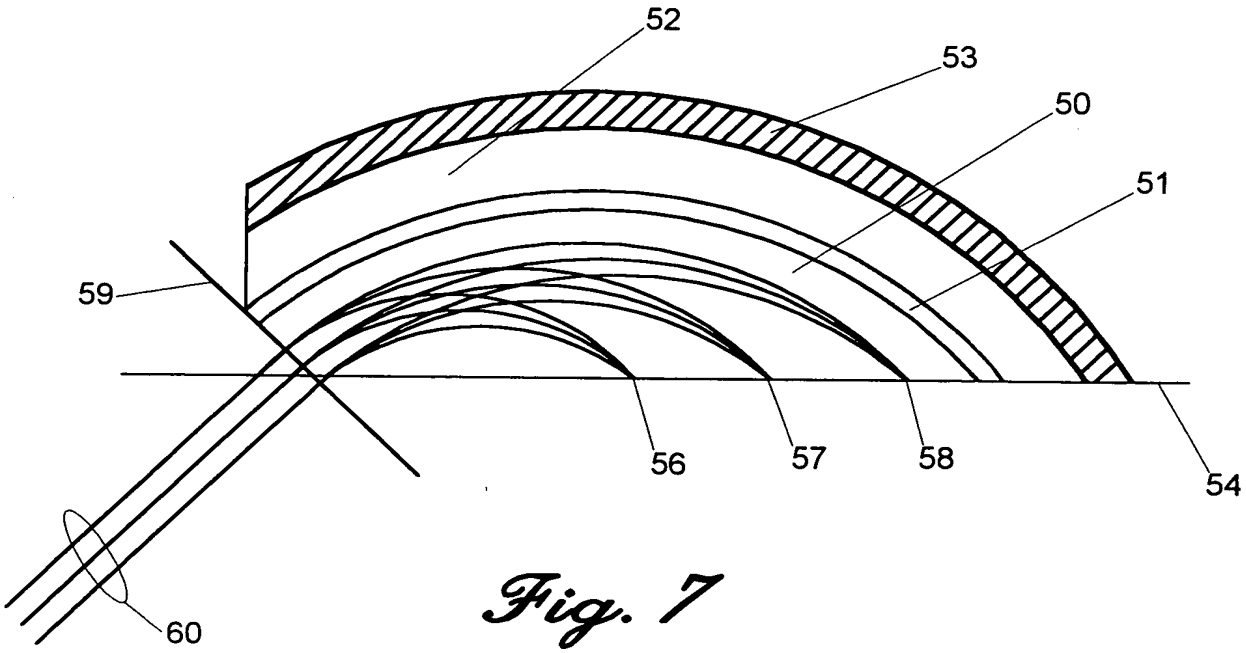


Fig. 7

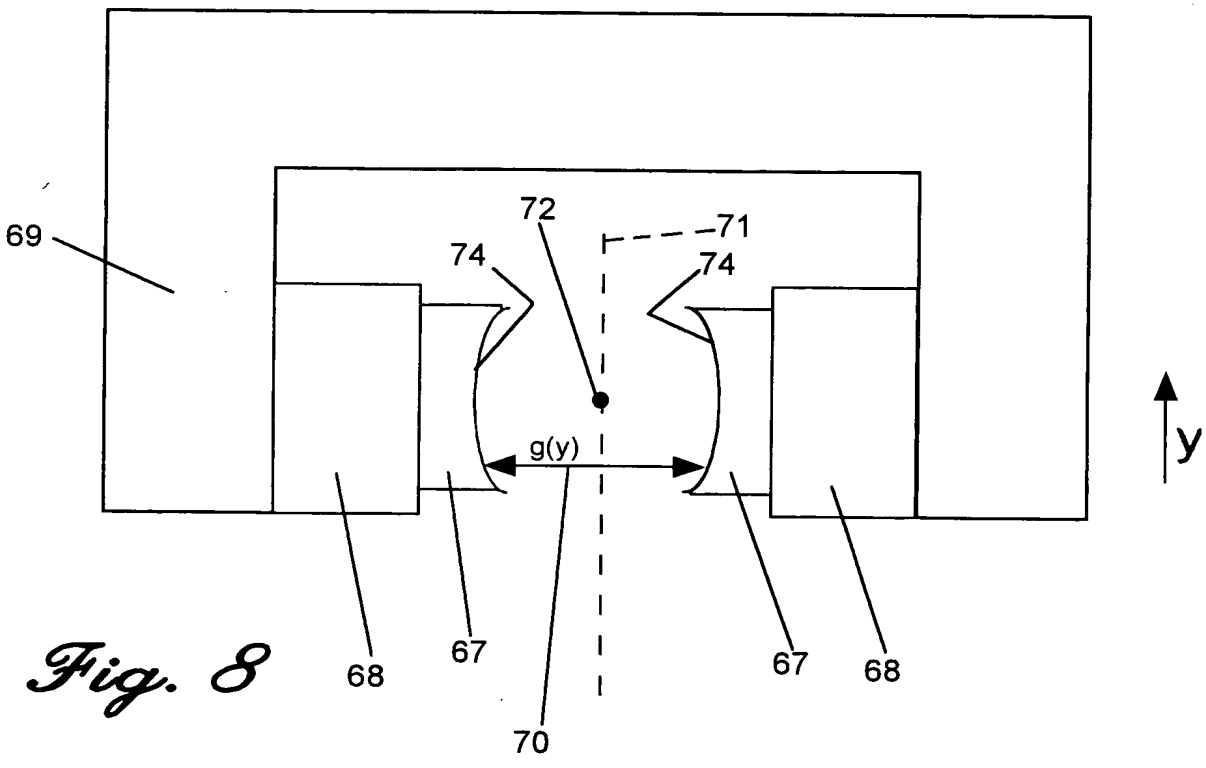


Fig. 8

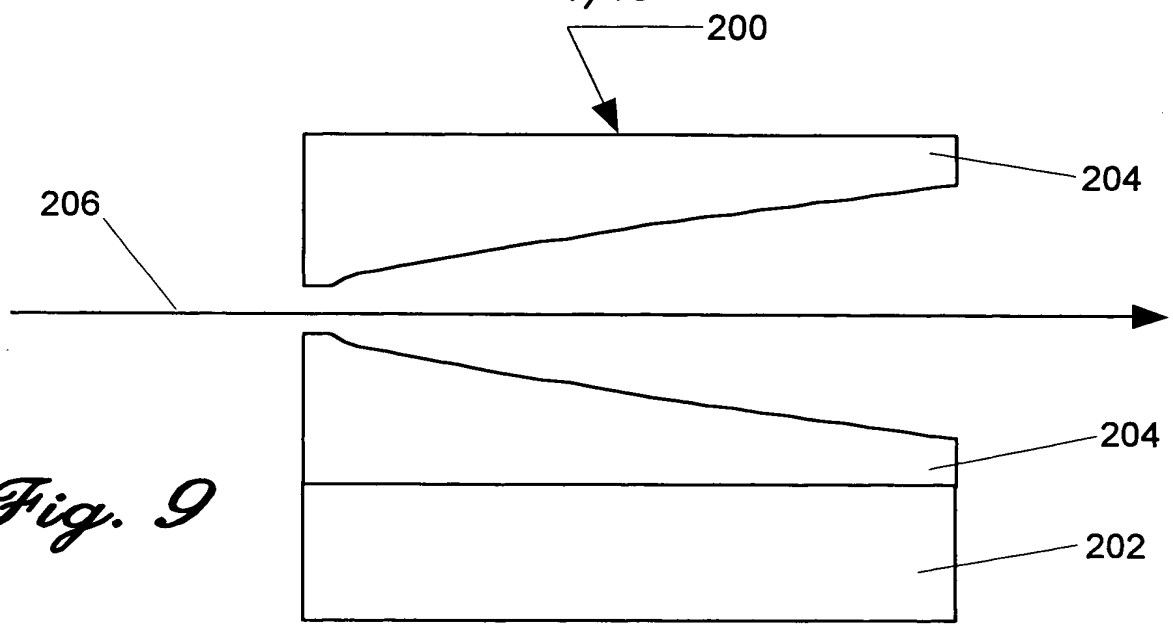


Fig. 9

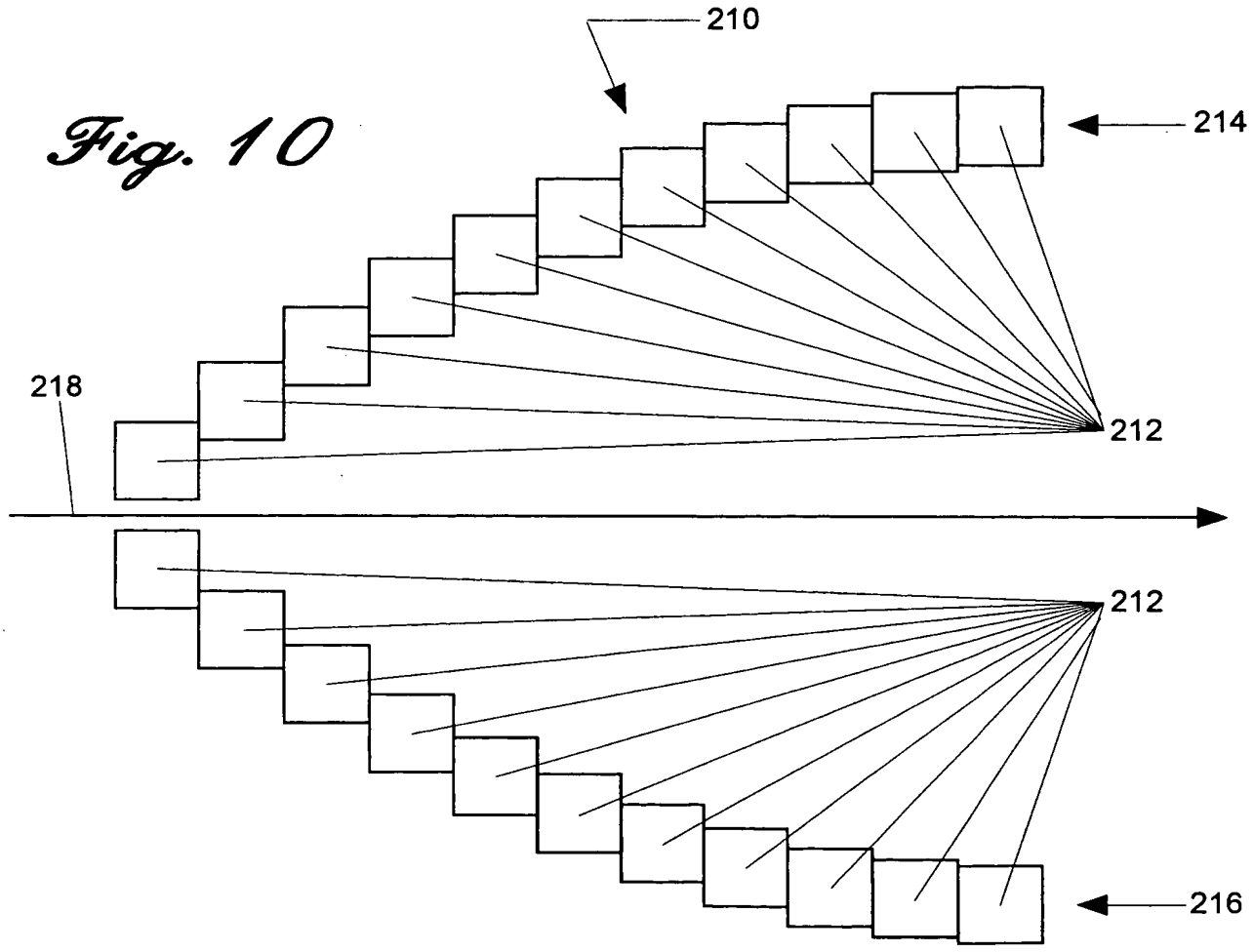


Fig. 10

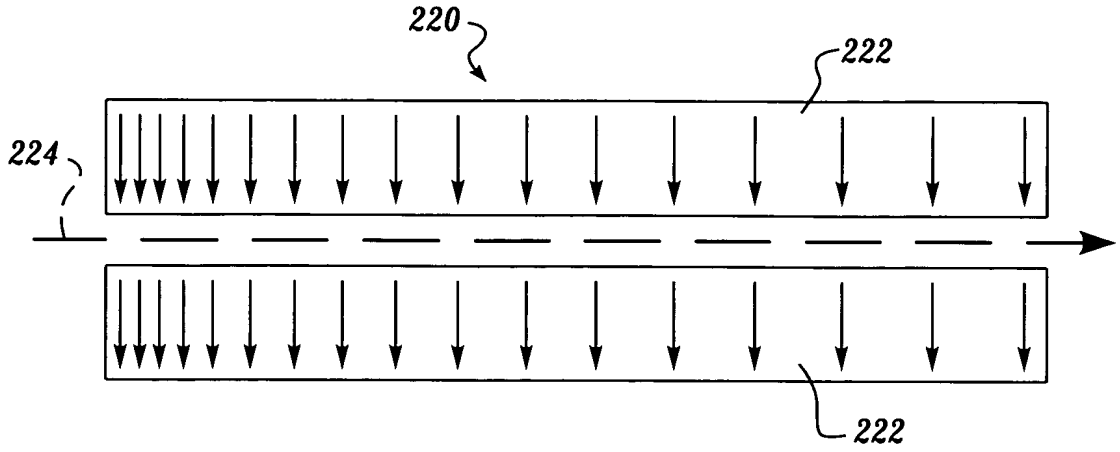


Fig. 11

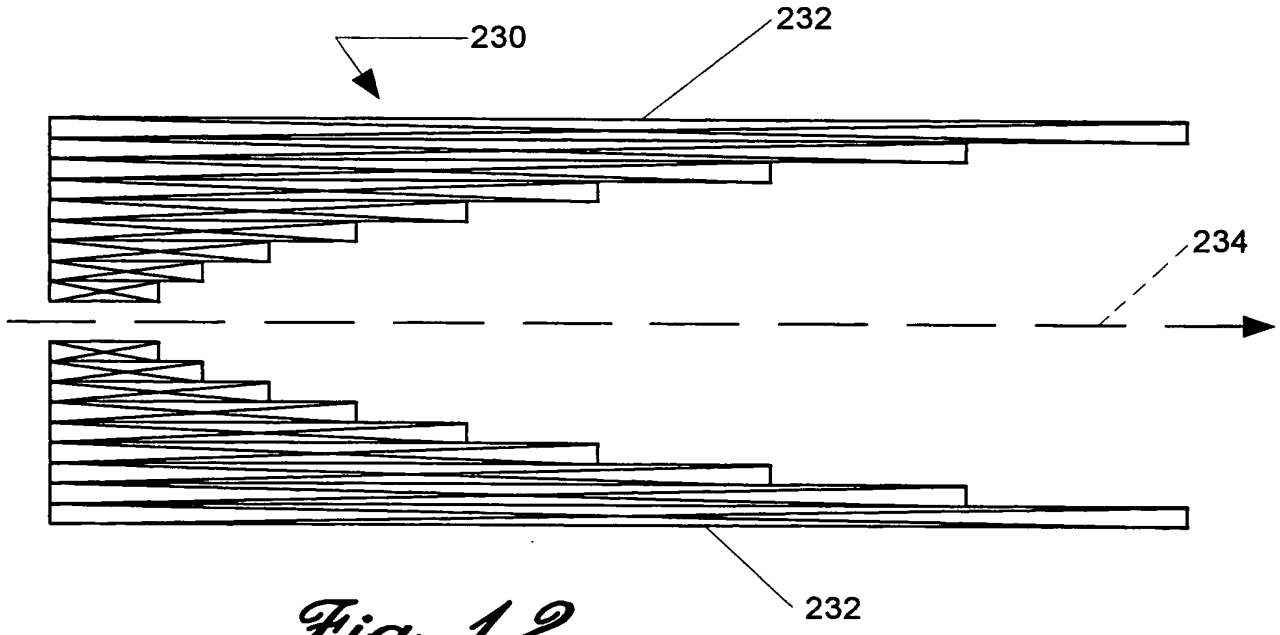


Fig. 12

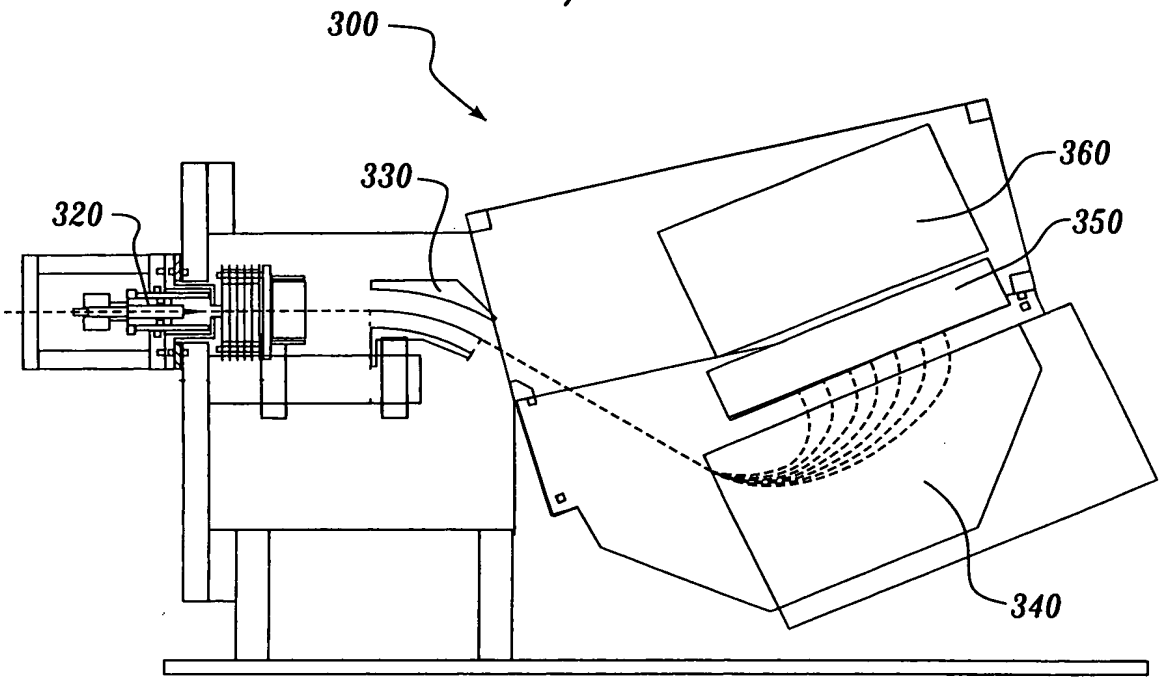


Fig. 13

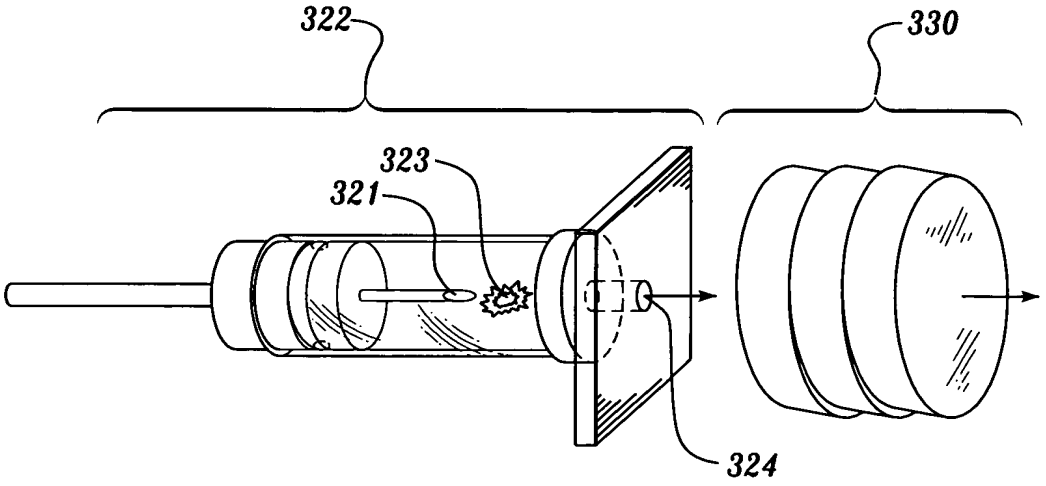


Fig. 14

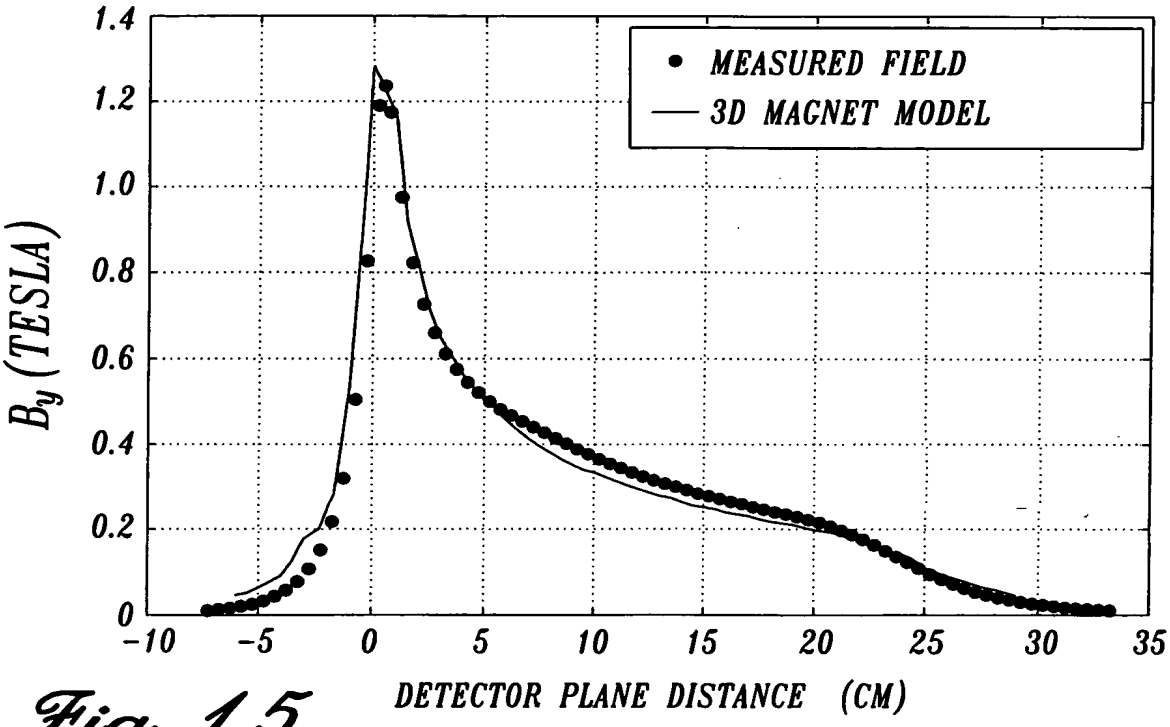

MEASURED FIELD
3D MAGNET MODEL
B_y (TESLA)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
−10
−5
0
5
10
15
20
25
30
35
DETECTOR PLANE DISTANCE (CM)

Fig. 15

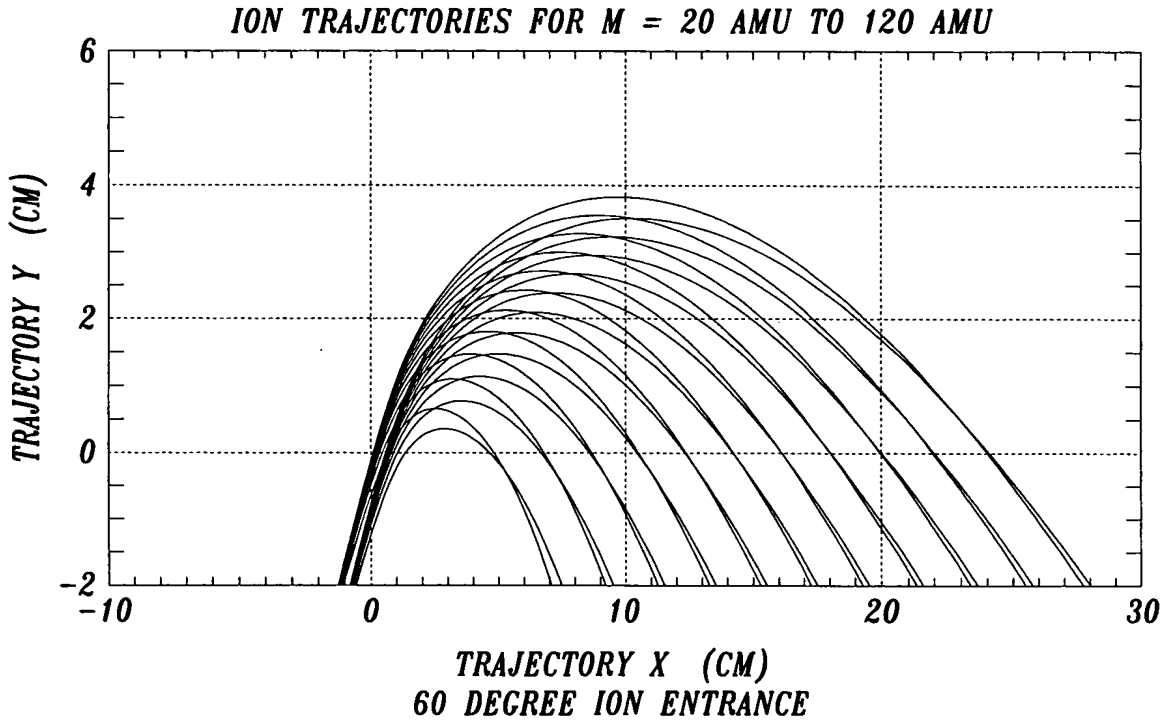

ION TRAJECTORIES FOR M = 20 AMU TO 120 AMU
TRAJECTORY Y (CM)
6
4
2
0
−2
−10
0
10
20
30
TRAJECTORY X (CM)
60 DEGREE ION ENTRANCE

Fig. 16

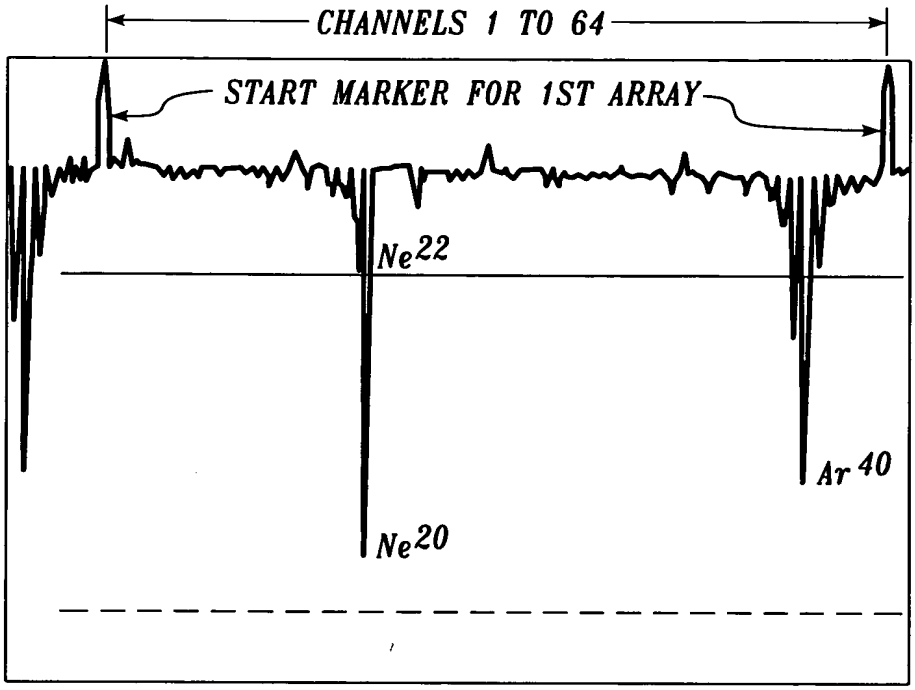

CHANNELS 1 TO 64
START MARKER FOR 1ST ARRAY
Ne22
Ne20
Ar40

Fig. 17

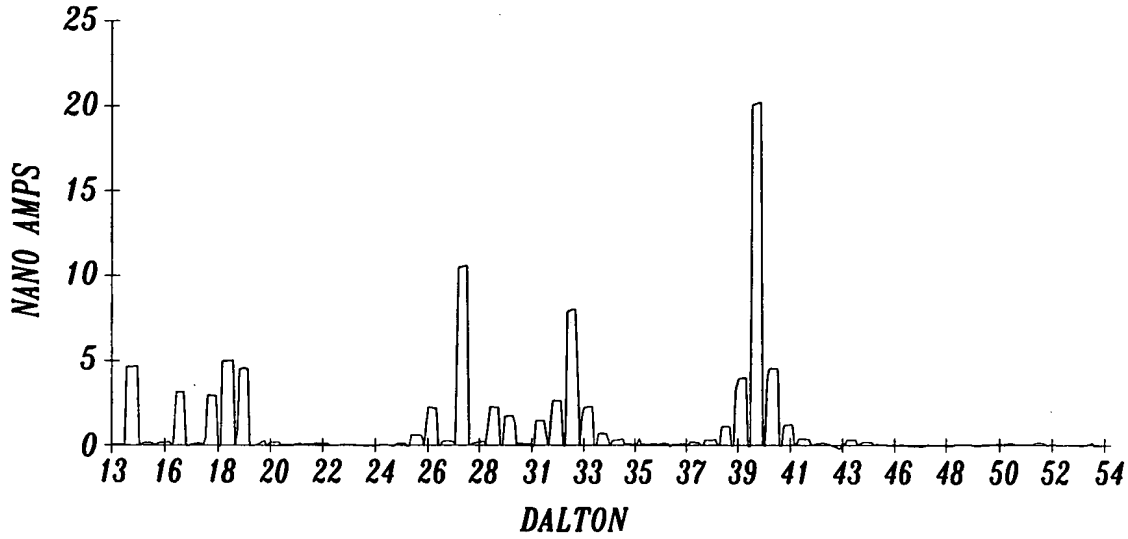

NANO AMPS
25
20
15
10
5
0
13 16 18 20 22 24 26 28 31 33 35 37 39 41 43 46 48 50 52 54
DALTON

Fig. 18

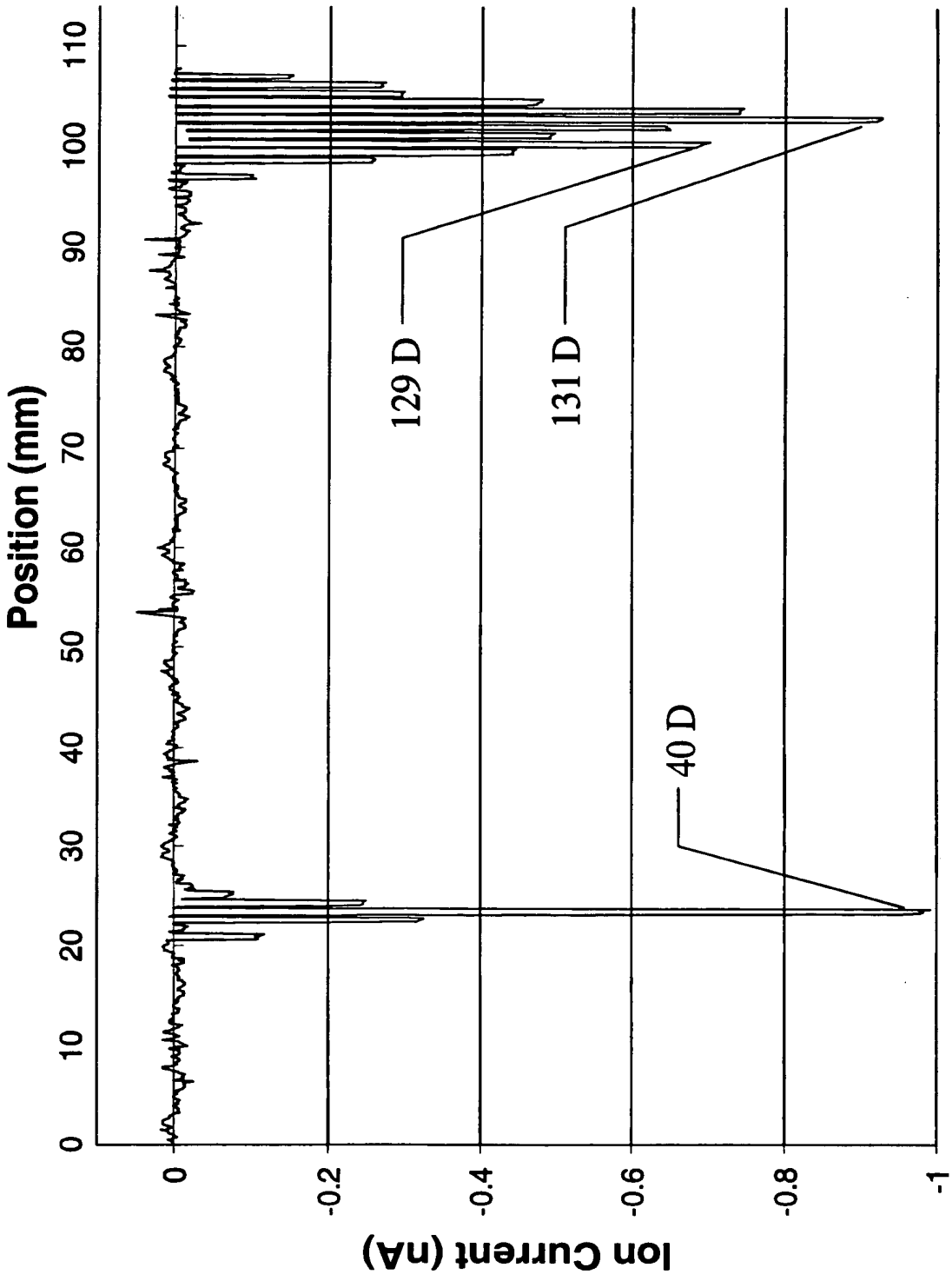

Position (mm)
0
10
20
30
40
50
60
70
80
90
100
110
Ion Current (nA)
0
-0.2
-0.4
-0.6
-0.8
-1
129 D
131 D
40 D

Fig. 19

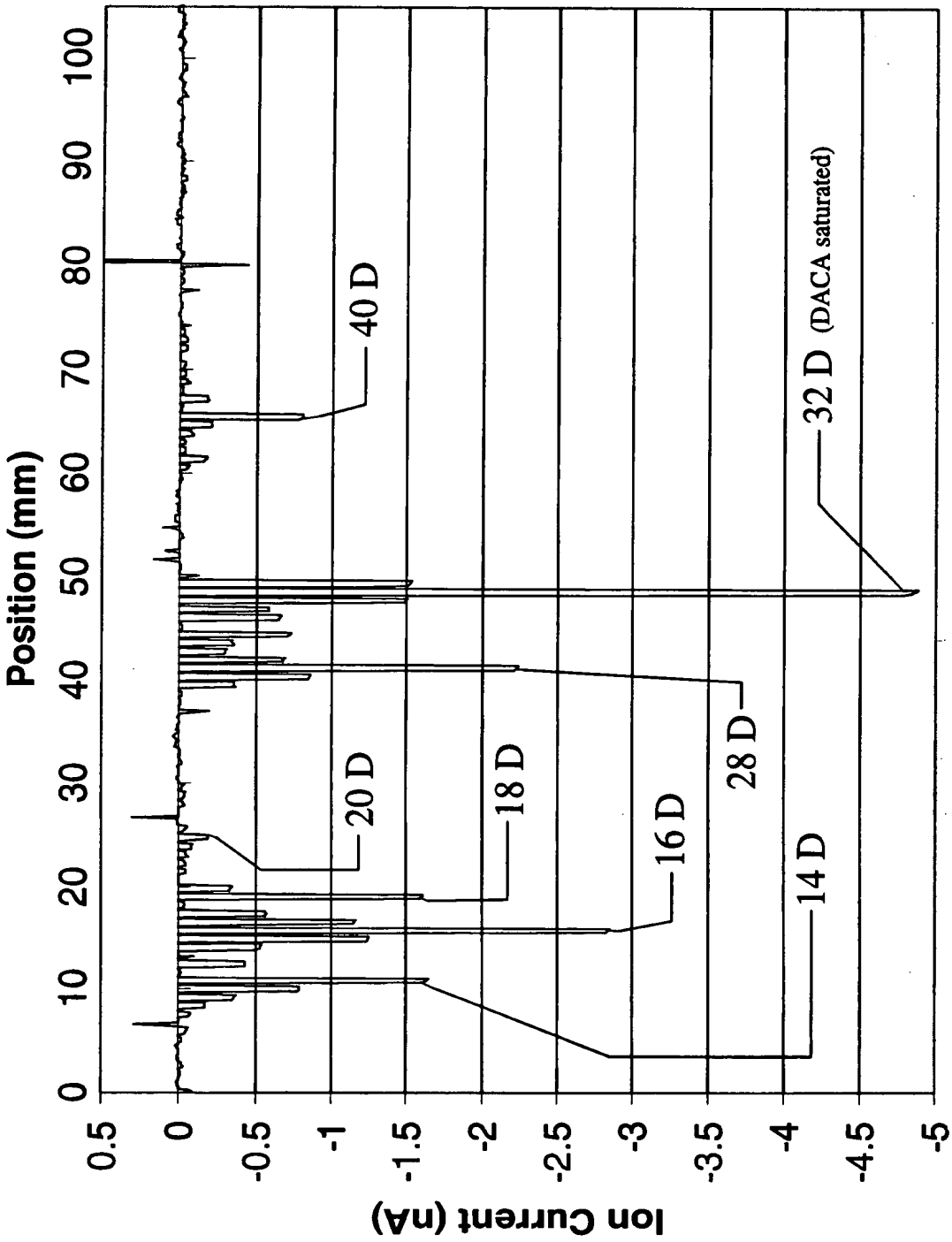

Position (mm)
0
10
20
30
40
50
60
70
80
90
100
Ion Current (nA)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
-4
-4.5
-5
40 D
32 D (DACA saturated)
20 D
18 D
16 D
28 D
14 D

Fig. 20

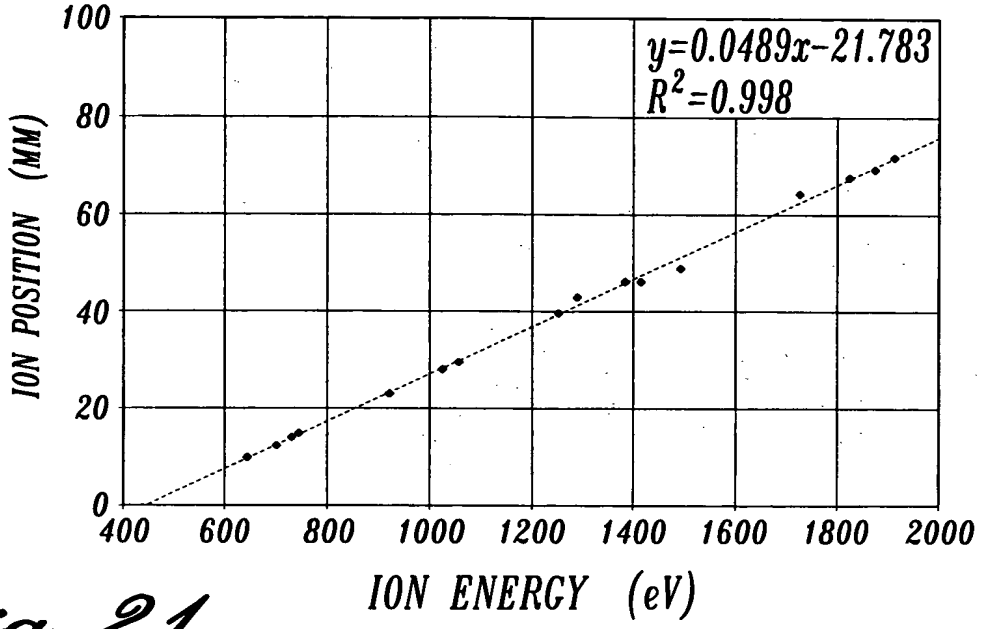

y=0.0489x-21.783
R²=0.998
ION POSITION (MM)
ION ENERGY (eV)
0
20
40
60
80
100
400
600
800
1000
1200
1400
1600
1800
2000

Fig. 21

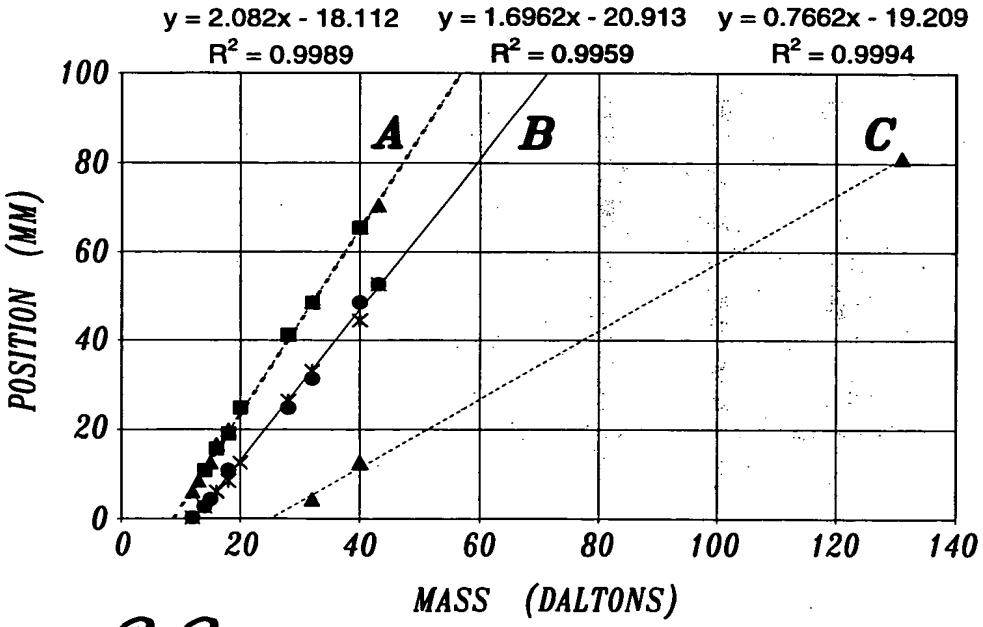

y = 2.082x - 18.112
R² = 0.9989
y = 1.6962x - 20.913
R² = 0.9959
y = 0.7662x - 19.209
R² = 0.9994
A
B
C
POSITION (MM)
MASS (DALTONS)
0
20
40
60
80
100
120
140

Fig. 22

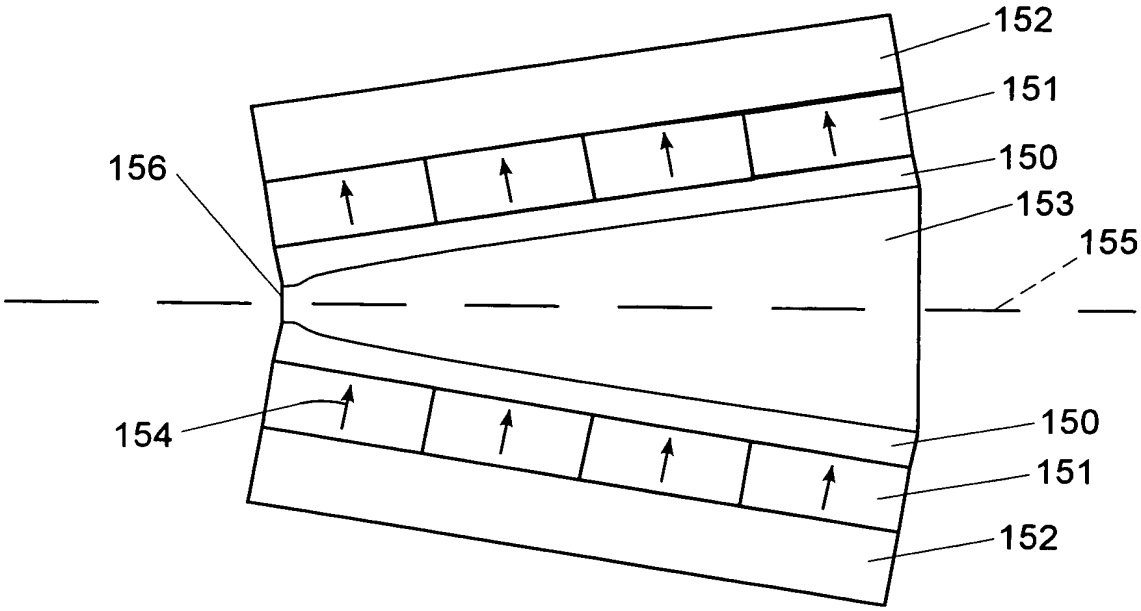


Fig. 23